



*Please read these instructions completely  
before proceeding with installation*

*Failure to read these instructions can result in mis-installation*

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# **What You Need to Know About RoadTamer**

## **About RoadTamer**

The RoadTamer suspension system and your vehicle's original equipment steel spring suspension operate differently. RoadTamer allows your vehicle to ride "on air." It lowers air pressure for lighter loads, meaning you will have a softer ride when you don't need the heavy factory springs.

RoadTamer lowers your vehicle to be approximately level with the front suspension. The result is a vehicle altitude very similar to that of a fully loaded vehicle. The air management system then maintains that rear suspension height regardless of the load you carry.

## **Ride Height**

RoadTamer gives you optimum ride performance, regardless of the load. RoadTamer's air management system will maintain the vehicle's ride height within  $\frac{1}{2}$ ". You will enjoy a much more comfortable, controllable and safer ride. The design of RoadTamer is carefully considered to give you "The Ultimate Suspension Upgrade."

## **Vehicle Leveling, Side-to-Side**

Vehicles are not always level when they are delivered from the factory. Installing RoadTamer on your vehicle does not correct this non-level condition. Before you install RoadTamer, measure for vehicle levelness on a flat surface. After the factory springs have been removed, use a level to verify that the axle spring perches are level from side-to-side. If the perches are not level, you will need to apply a wedge shim to one side or the other to correct this condition. The wedge shim is provided with each RoadTamer kit. More information is provided later in the instruction manual.

Install your RoadTamer kit and make sure the axle is level and square with the vehicle frame. Snug, but **DO NOT TORQUE**, all fasteners per the directions provided in this installation manual. Check again to see if the vehicle is level. If it is not close to as level as its factory levelness, re-read the installation manual concerning the use of the wedge shim. You may also have to loosen all beam connecting bolts, u-bolts, etc. Re-level the axle to the frame before re-torquing all fasteners.

## **Driveline Angles**

Driveline angles are factory-set to cancel vibrations caused by the u-joints. RoadTamer takes this into consideration when lowering the vehicle to a level height. However, the factory does not set up all vehicles to be identical. Many different axle, suspension, and wheelbase combinations are possible. You will need to measure the driveline angles and make a calculation to verify that the driveline cancels correctly. See the section *Checking Driveline Angles* toward the back of the installation manual.

# Vehicle Requirements

## Vehicle Type

Chevy 3500

**NOTE:** For 4WD crew cab models, use driveshaft spacer kit # 26029 (purchased separately) in addition to kit # 39020. If you do not already have spacer kit # 26029, you can purchase it by calling Air Lift's Customer Service Department at 800-248-0892, extension 1.

## Vehicle Years

See the application guide for specific years.

## 5th Wheel Hitch

The installation of this RoadTamer kit will fit onto most vehicles with a fifth wheel hitch. Some fifth wheel hitches may require modifications to make the kit fit properly.

See page 5 for further instructions.

## Muffler Modifications

Modifications will need to be made to the muffler after the completion of this kit.

Air Lift Company recommends taking your vehicle to a muffler repair shop upon completion of the kit installation.

## Gross Vehicle Weight Rating (GVWR)

**IMPORTANT:** The installation of this kit does not alter the GVWR or payload of the vehicle. Check your vehicle owner's manual and do not exceed the maximum load listed for your vehicle.

**Gross Vehicle Weight Rating** - The maximum allowable weight of the fully loaded vehicle (including passengers and cargo). This number - along with other weight limits, as well as tire, rim size and inflation pressure data - is shown on the vehicle's Safety Compliance Certification Label.

**Payload** - The combined, maximum allowable weight of cargo and passengers that the truck is designed to carry. It is GVWR minus the Base Curb Weight.

# RoadTamer Warranty and Return Policy

Air Lift Company warranties its RoadTamer product against quality and workmanship defects to the original retail purchaser as follows; Main Structural components defined as; beams, brackets, and links for 24 months or 24,000 miles, whichever occurs first. All other components for 12 months or 12,000 miles, whichever occurs first. Air Lift Company provides no warranty on the vehicle's original equipment or other aftermarket products. This warranty does not apply to products that have been improperly applied, installed, used in racing applications or maintained in accordance with installation instructions furnished with the product. A \$10.00 minimum shipping and

handling charge will apply to all warranty claims. Before returning any defective product, you must call Air Lift Company (800) 248-0892 ext 2 for an RGA (Returned Goods Authorization) number. Product failures resulting from abnormal use or misuse are excluded from this warranty. The loss of use of the product, loss of time, inconvenience, commercial loss, or consequential damages is not covered. The Air Lift Company reserves the right to change the design of any product without assuming any obligation to modify any product previously manufactured. Dated proof of purchase is required.

# Getting Started

**DANGER:** Compressed air can cause injury and damage to the vehicle and parts if it is not handled properly. For your safety, do not try to inflate the air springs until they have been properly secured to the vehicle.

**IMPORTANT:** Measure and record the driveline angles in the chassis as first received (Figure 21).

1. Elevate the rear of the vehicle and secure the frame with jack stands or a frame-contact hoist. Support the axle (Figure 1).
2. Remove the spare tire, both leaf springs, and the rear frame contact overload brackets, if equipped, from the frame (Figure 2).

**NOTE:** It will be necessary to cut the driver side bolt out of the spring retainer because of how the gas tank is positioned. A replacement 16 mm bolt is supplied for reinstallation. Retain the front spring eye bolt from the passenger side and nuts for later use.

**NOTE:** It may be necessary to remove the trailer hitch in order to remove the bolts from the spring hanger.

**NOTE:** After removing the factory steel springs, check the axle spring perches for side-to-side angle uniformity. Refer to the Inspecting Axle Spring Perch Uniformity section for information on installing the supplied 1° wedge shim.

3. Cut off the tailpipe behind the muffler and remove. Leave enough room on the muffler to install a replacement pipe (Figure 3).
4. Remove the bolts securing the brake cables to the rear end (Figure 4).

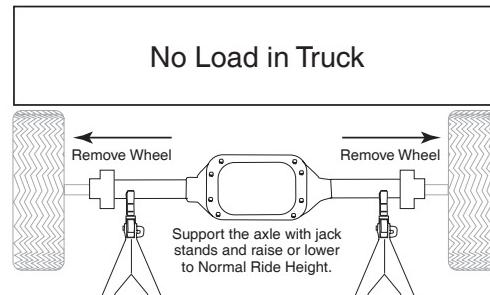


Figure 1

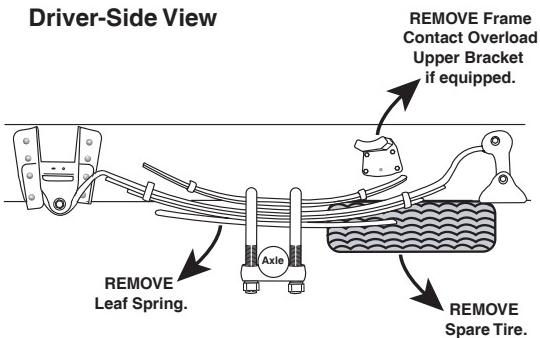


Figure 2

Driver-Side View

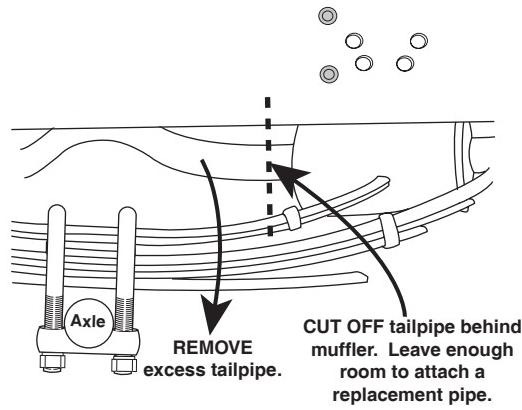


Figure 3

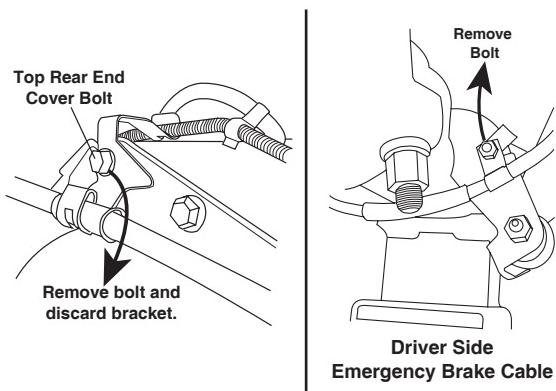


Figure 4

# Inspecting Axle Spring Perch Uniformity

1. After removing the factory steel springs, check the axle spring perches for side-to-side angle uniformity. Without disturbing the axle position, place a magnetic angle protractor on one perch and note the angle. Next, place the angle protractor on the other perch and note the angle there as well. A difference of less than 1° is normal and does not require a shim. If the difference between the two angles exceeds 1°, use the supplied 1° wedge shim to correct the difference.
2. Place the 1° wedge shim on one axle spring perch and re-measure the angles to verify that they equal less than 1°. Use the centering pin to attach the wedge to the correct beam and install the beams as directed in the section titled *Attaching the Axle Beams*. DO NOT TIGHTEN FASTENERS until you have checked the driveline angles as instructed in the section dealing with that topic toward the back of this manual.
3. Measure from the top of each frame rail (at the rear of the frame) to the ground. The measurement must be made at vehicle ride height with the vehicle on level ground and with equal tire pressures. The vehicle levelness is acceptable if the two measurements from side-to-side are within  $\frac{3}{8}$ ". If the vehicle is not level within  $\frac{3}{8}$ ", check that the 1° shim is placed properly.

## Attaching the Axle Beams

**NOTE:** For 4WD crew cab models, refer to the manual provided with the driveshaft spacer kit # 26029 (purchased separately) at this time. You must have this spacer kit before proceeding. If you do not already have spacer kit # 26029, you can purchase it by calling Air Lift's Customer Service Department at 800-248-0892, extension 1.

1. Attach the centering pins through each beam with the round head facing down. Tighten the centering pin nut securely (Figure 5).
2. Attach the driver-side beam assembly to the front spring eye hanger using the supplied 16 mm bolt (stock bolt on passenger side) and washer and the previously removed stock nut (Figure 5). Be sure to index the centering pin into the spring perch in order to properly locate the axle and the beam. Leave loose.

**NOTE:** The emergency brake cable should go over the beam assembly.

3. Attach the beam assemblies to the axle with the hardware shown in Figure 5. Secure snugly, but do not completely tighten at this time.

**NOTE:** It will be necessary to use the stock spring retainer between the u-bolts and the beams.

**NOTE:** Draw the nuts down evenly on the retainer by using a criss-cross tightening pattern.

**NOTE:** You must check the driveline angles for cancellation before completing the installation (see the Driveline Angles section toward the back of the manual). It may be necessary to reverse the shim and place it on the opposite side to maintain correct driveline angles.

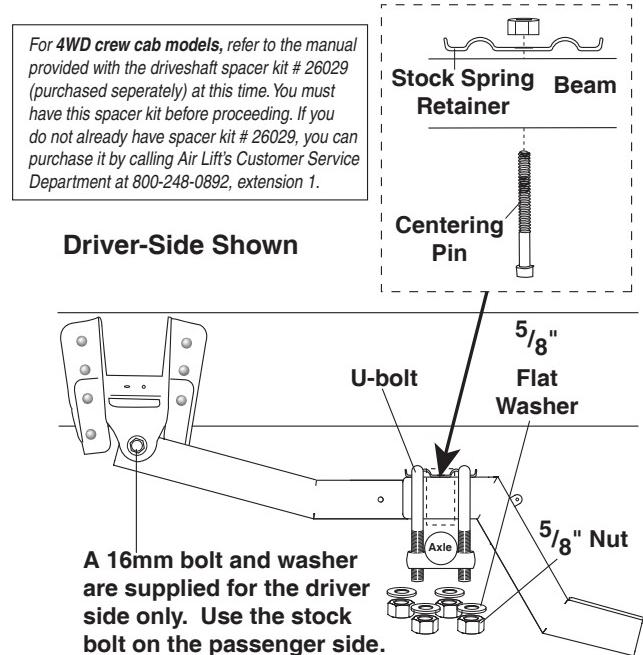


Figure 5

## Attaching the Frame Brackets

1. Install the driver-side frame bracket. Line up the lower crossmember rivet with the lower, forward hole in the upper bracket. Clamp the bottom of the flange on the bracket to the frame flange using vise grips or welding clamps.

2. a) If there are existing holes:

Line up the upper bracket holes with the existing contact overload bracket holes in the frame (Figure 6). Attach the bracket to the frame with four  $\frac{1}{2}$ " bolts, eight washers and four nyloc nuts. Leave loose at this time.

- b) If there are NO existing holes:

Drill a  $\frac{1}{2}$ " hole using the upper bracket as a template. Attach the bracket with one  $\frac{1}{2}$ " bolt, two flat washers and one nyloc nut. Tighten just until snug. Do not overtighten.

3. Drill two  $\frac{1}{2}$ " holes through the frame flange using the top hole in the bracket as a template. Attach the upper bracket using two  $\frac{1}{2}$ " bolts, four flat washers and two nyloc nuts. Tighten just until snug. Do not overtighten.
4. Drill the remaining holes through the side, if needed, using the bracket holes as a template. Attach the remaining  $\frac{1}{2}$ " hardware shown in Figure 7, starting with the bottom  $\frac{1}{2}$ " bolts. Torque all hardware to 107 ft.lbs.
5. Repeat steps 1-4 for the passenger side.
6. Reinstall the spare tire.

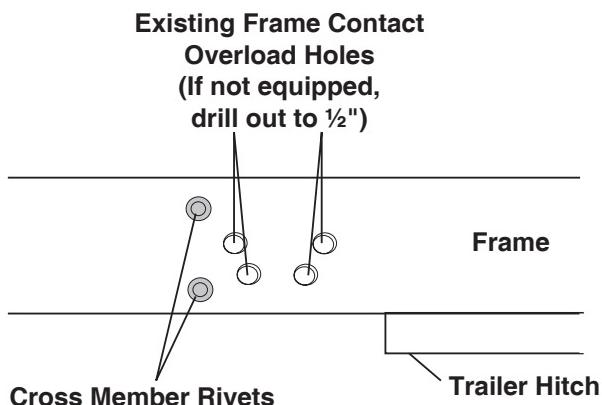


Figure 6

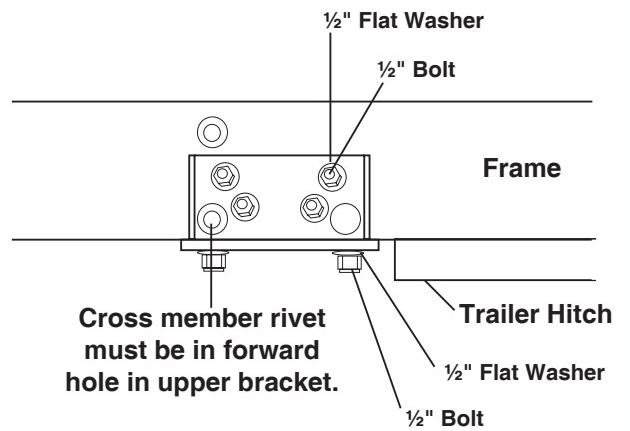


Figure 7

## Attaching and Adjusting the Panhard Rod

1. Attach the panhard rod bracket to the driver side frame. Use the oval hole in the side of the frame shown in Figure 8 as your starting point. Insert a  $\frac{1}{2}$ " bolt through a flat washer, the bracket, the frame, a large flat washer and a nyloc nut. Push the bracket to the rear as far as possible and clamp both the frame and bracket flange together (Figure 9).
2. Drill out the remaining holes, even through the frame flange, to  $\frac{1}{2}$ " (Figure 8, Figure 9). Attach with three more  $\frac{1}{2}$ " bolts, six flat washers and three nyloc nuts (Figure 10). Starting with the bottom flange, tighten all hardware to 107 ft.lbs.
3. Attach the panhard rod assembly to the panhard rod bracket to the frame rail using one  $\frac{9}{16}$ " bolt, two flat washers and one nyloc nut (Figure 10). Leave loose at this time.

**NOTE:** Insert the bolt front-to-rear so the nyloc nut is in the back towards the rear of the vehicle (Figure 10).

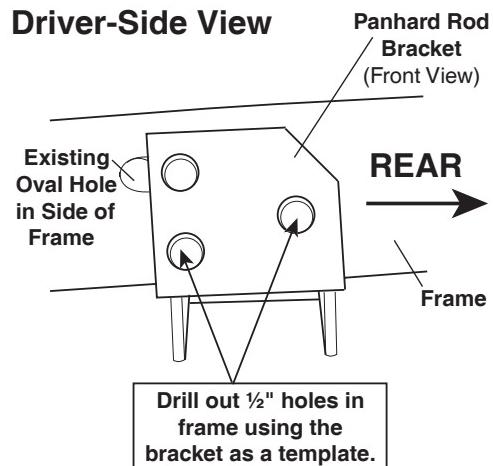


Figure 8

### Inner View of Frame Flange

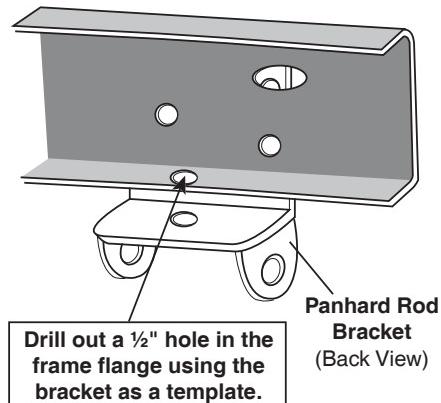
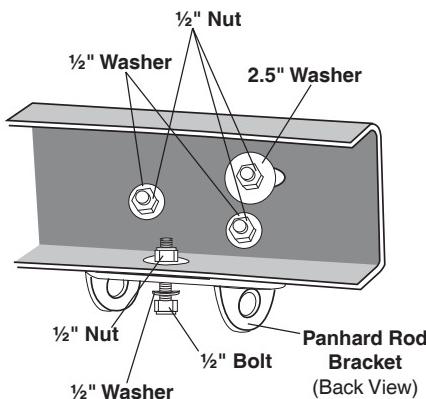


Figure 9

## Driver-Side View

### Inner View of Frame Flange



### Outer View of Frame

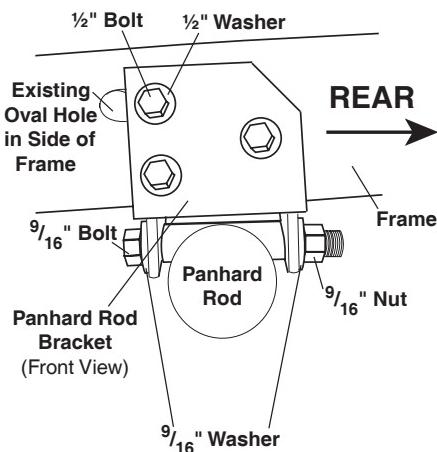


Figure 10

## Attaching and Adjusting the Panhard Rod

4. Raise or lower the axle to create a space of 12.5 inches between the rolling lobe upper and lower mounting brackets (Figure 14). Adjust the heim, using a pry bar if necessary, so both passenger-side and driver-side beam-to-frame distances are equal.

**CAUTION:** *There must be no more than 1½" of thread showing on the heim joint (Figure 11).*

5. Attach the heim to the passenger side beam assembly. Refer to Figure 12 for an installation diagram. Tighten both ends of the panhard rod securely. Turn the heim joint so the cage is parallel with the bracket to prevent suspension travel from interfering. Tighten the jam nut on the heim.

**CAUTION:** *The panhard rod heim joint jam nut must be torqued to 150 ft/lbs and the heim must be lubricated.*

6. Refer to Figure 21 and the *Checking Driveline Angles* section at this time. If angles are acceptable, proceed with torquing the U-bolts and pivot bolts.
7. Tighten the beam U-bolts to 170 ft/lbs. using a criss-cross pattern to tighten evenly (Figure 13). Using a hacksaw, grinder, or cut-off wheel, trim off the excess U-bolt so it is 1" above the retaining nuts. Torque the front stock beam pivot bolts to 110 ft/lbs.

**No more than 1½" of thread showing on heim joint**

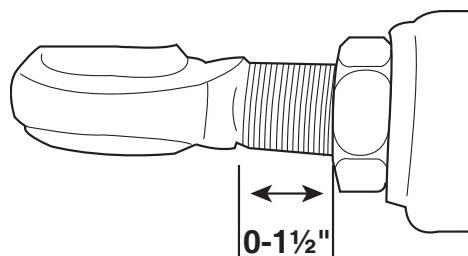
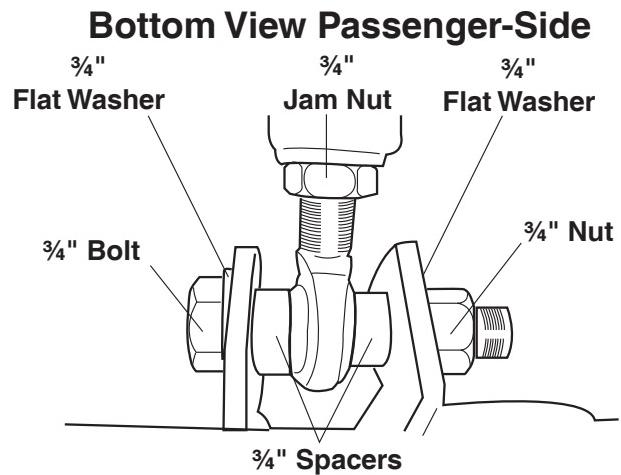


Figure 11



Beam Assembly

Figure 12

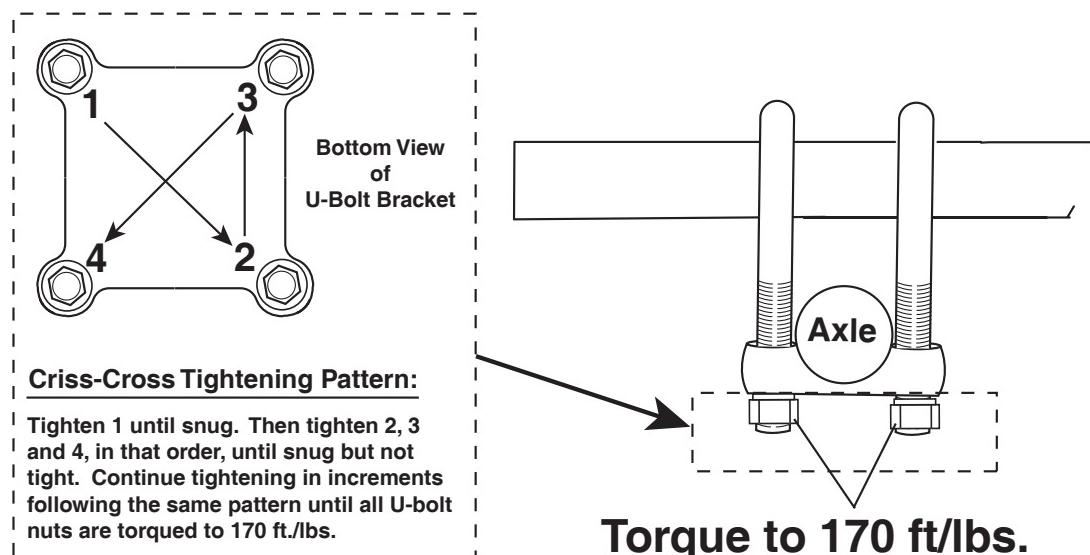


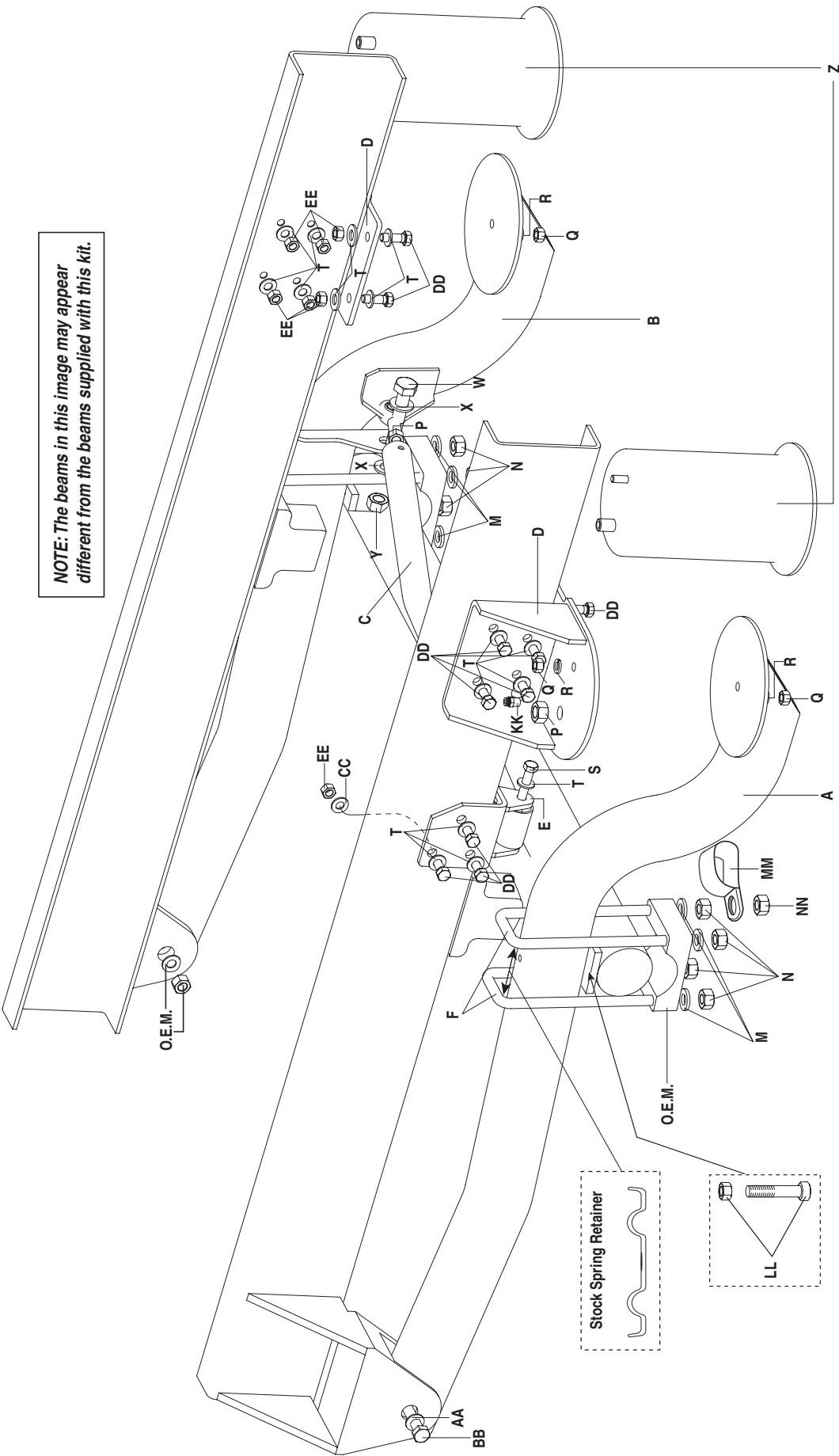
Figure 13

## **Hardware List**

### **Hardware List**

<b>Item</b>	<b>Part No.</b>	<b>Description</b>	<b>Quantity</b>
A	26537	Driver-Side Beam Assembly	1
B	26454	Passenger-Side Beam Assembly	1
C	26332	Panhard Rod Assembly	1
D	07003	Frame Bracket	2
E	10046	Panhard Rod Bracket	1
F	10565	5/8"-18 x10.25" U-Bolt	4
G	10466	8" Zip Tie	6
H	18405	5/16" Flat Washer	2
I	18411	5/8" Lock Washer	2
J	21230	Poly Cap	2
K	21233	Hex Nut	4
L	21234	Rubber Washer	2
M	18509	1.25" Flat Washer	8
N	18508	5/8"-18 x .85 Nut	8
O	20086	Air Line Assembly	16 ft.
P	18451	3/4"-16 Jam Nut	2
Q	18484	1/2"-20 Hex Nut	4
R	18429	1/2" Lock Washer	4
S	17219	9/16"-12 x 5 Bolt	1
T	18485	1/2" Flat Washer	26
U	18480	9/16"-12 Nyloc Nut	1
V	13227	3/4" x 1/2" Spacer	2
W	17269	3/4"-16 x 4 Bolt	1
X	18518	3/4" Flat Washer	2
Y	18470	3/4"-16 Nyloc Nut	1
Z	58226	Rolling Lobe Sleeve	2
AA	18011	M16 Flat Washer	1
BB	17290	M16-2 x 120 Bolt	1
CC	10008	2.5" x 9/16" x .19" Flat Washer	1
DD	17247	1/2"-13 x 1.75 Bolt	16
EE	18460	1/2"-13 Nylock Nut	16
FF	26333	Frame Clamp	1
KK	21745	1/4" x 1/4" Male Connector	2
LL	17294	Centering Pin	2
MM	26393	Double Tube Clamp	1
LL	18246	5/8"-18 Jam Nut	1
	25435	Automatic Leveling System	1
	10439	1° Wedge Shim	1

## Kit Diagram



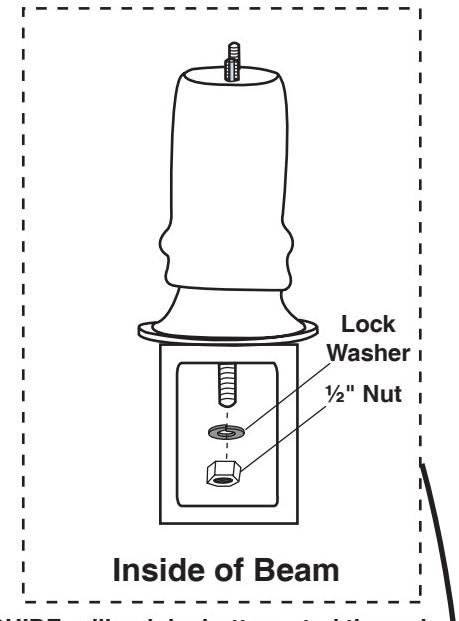
# Installing the Rolling Lobe Air Sleeves

Refer to Figure 14 for the following instructions.

1. Install the fitting into the large top stud of the rolling lobe air sleeve. Tighten the fitting finger-tight plus 1½ turns, being careful to tighten on the metal hex nut only.

**NOTE:** It may be necessary to raise the chassis to provide adequate space to install the rolling lobe air sleeves.

2. Insert the bottom studs of both rolling lobe air sleeves into the lower mounting hole of the beam assemblies on both sides of the vehicle. Attach finger-tight using a ½" lock washer and nut.
3. Lower the frame while guiding both top studs on the rolling lobe air sleeves through the holes in the upper mounting bracket.
4. Attach the air sleeves using a ¾" jam nut on the large stud. Use a lock washer and ½" nut on the smaller stud. Tighten the top mounts securely. Leave the bottom loose at this time.



Inside of Beam

GUIDE rolling lobe bottom stud through hole in center of beam. Attach with hardware shown.

## Driver-Side View

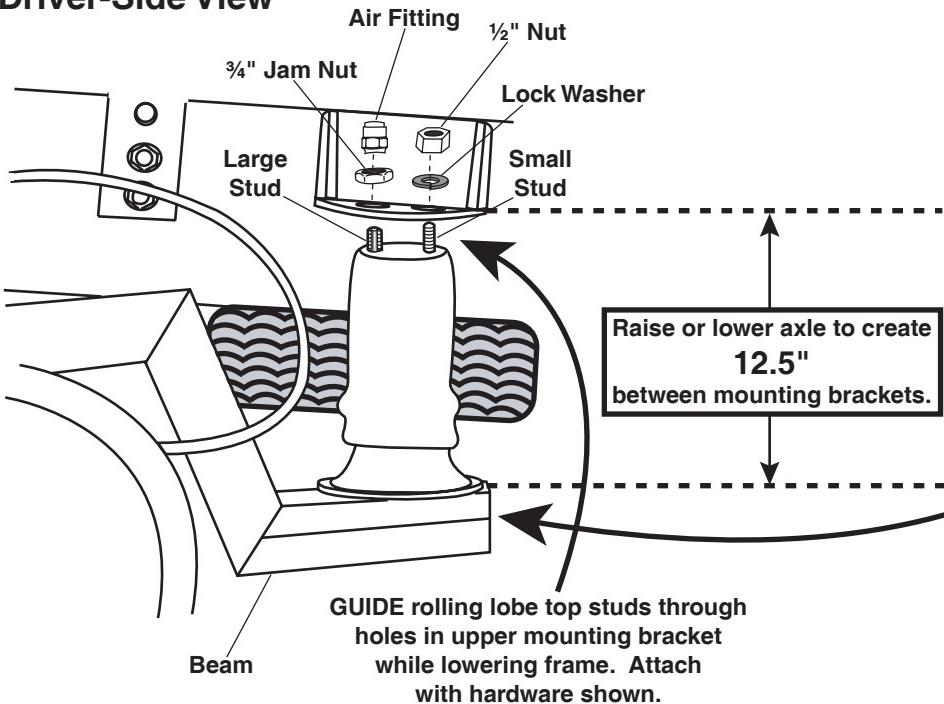


Figure 14

## Installing the Air Lines

1. Choose a convenient location for mounting the inflation valves. Popular locations for the inflation valve are: the wheel well flanges, the license plate recess in the bumper, under the gas cap access door, or through the license plate itself.

**NOTE:** Whatever the chosen location is, make sure there is enough clearance for an air chuck around the inflation valves.

2. Drill a  $\frac{5}{16}$  " hole to install the inflation valves.

3. Cut the air line assembly in two equal lengths.

**CAUTION:** When cutting or trimming the air line, use a razor blade or a very sharp knife. A clean, square cut will ensure against leaks. DO NOT USE WIRE CUTTERS OR SCISSORS TO CUT THE AIR LINE. These tools may flatten or crimp the air line, causing it to leak around the O-ring seal inside the elbow fitting (Figure 15).

4. Refer to Figure 16 to assist with air valve installation.

5. Route the air line along the frame to the air fitting on the air spring. Keep at least 6" of clearance between the air line and heat sources, such as the exhaust pipes, muffler, or catalytic converter (Figure 17). Avoid sharp bends and edges. Use the plastic tie straps to secure the air line to fixed, non-moving points along the chassis. Be sure that the tie straps are tight, but do not pinch the air line. Leave at least 2" of slack to allow for any movement that might pull on the air line.

6. Cut off air line leaving approximately 12" of extra air line. A clean square cut will ensure against leaks. Insert the air line into the air fitting. This is a push-to-connect fitting. Simply push the air line into the straight fitting until it bottoms out ( $\frac{1}{16}$ " of air line should be in the fitting).

### Air Line Cutting

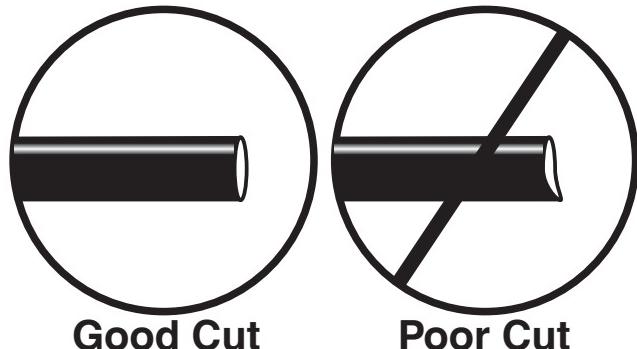


Figure 15

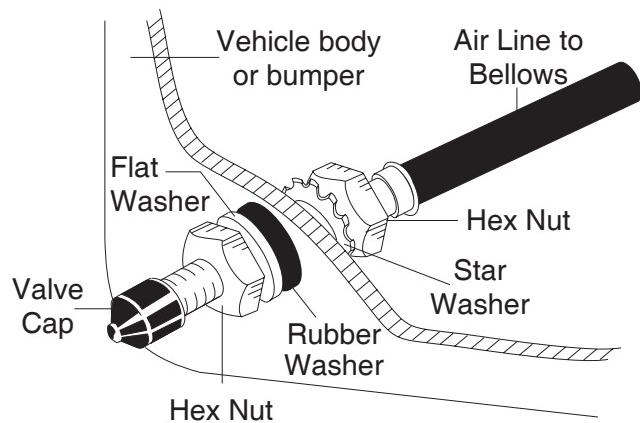


Figure 16

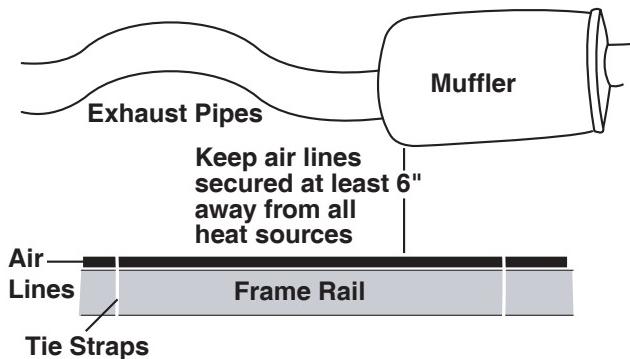


Figure 17

## Reattaching the Brake Cables

1. Reattach the passenger side emergency brake cable to the top of the rear end using the new hanger supplied and the stock rear end cover bolt. Tighten securely (Figure 18).
2. Reattach the driver side brake line to the shock bracket using the existing hardware. Attach the driver-side emergency brake cable to the inside, rear U-bolt using the double tube clamp and the supplied 5/8" - 18 jam nut (Figure 19).

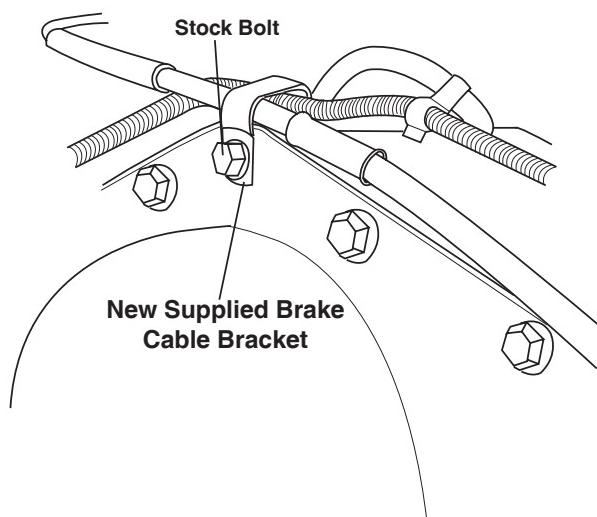


Figure 18

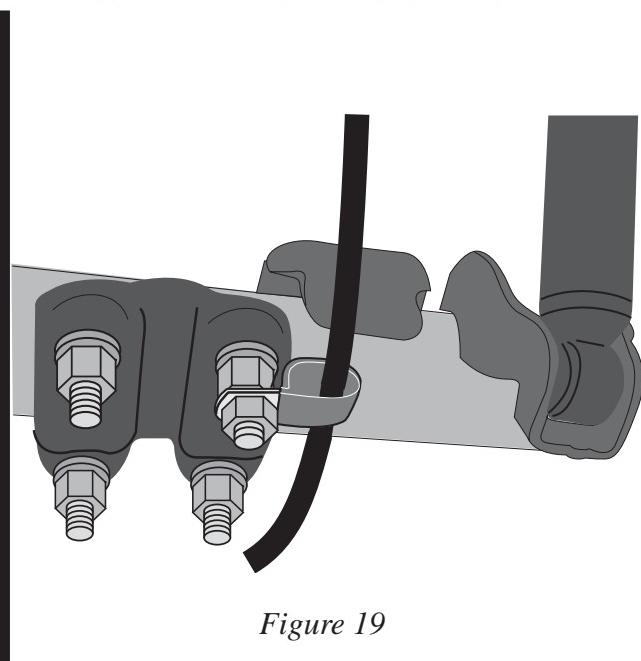


Figure 19

## Final Adjustments

1. Inflate both rolling lobe air sleeves to 20 p.s.i and check for leaks.
2. **Tighten both bottom rolling lobe mounts securely at this time. Torque to 50 ft/lbs.**
3. An Air Lift SmartAir system must be installed with this kit. Follow the instructions in the SmartAir manual to install the system. Once the SmartAir system is installed it will automatically maintain the rolling lobe air springs' installed height of 12 - 13 inches within their mounts (Figure 20).
4. Routing the exhaust out of the side of the vehicle in front of the rear wheel on the passenger side is recommended.

**NOTE:** *It may be necessary to have a custom-bent pipe made if routing the exhaust out the back behind the rear wheels is desired.*

5. **IMPORTANT: Check and re-torque all mounting hardware, especially the beam U-bolts, after 150 miles and every 10,000 miles.**

## Driver-Side Shown

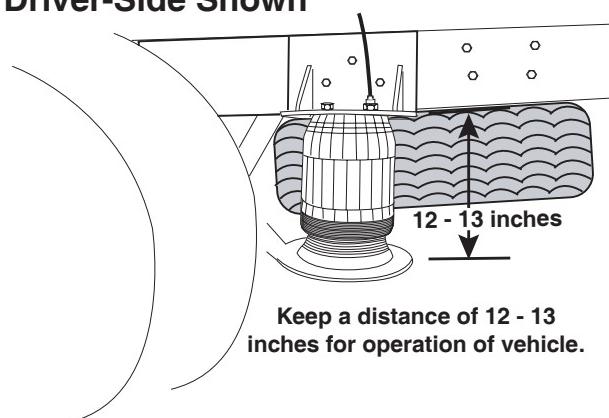


Figure 20

## Checking Driveline Angles

1. After the RoadTamer kit is installed, the following conditions must be true for the driveline angles, both at unloaded and fully loaded ride heights:
  - a. Condition #1: The operating angle at any individual joint must be between  $0.1^\circ$  and  $4^\circ$ . The preferred maximum angle is  $2^\circ$ .
  - b. Condition #2: When added together, the operating angles throughout the driveline MUST cancel. The operating angles at either end of a shaft should be within  $1^\circ$  of each other or at least satisfy the following formula in order to provide adequate cancellation (Figure 21).
2. Wedge shims may be placed between the beams and axle to correct driveline angles that fall outside this requirement. Re-check all driveline angles after installing the shims.
3. A minimum operating angle of  $0.1^\circ$  at each universal joint is required to prevent dents from forming on the bearing surfaces.

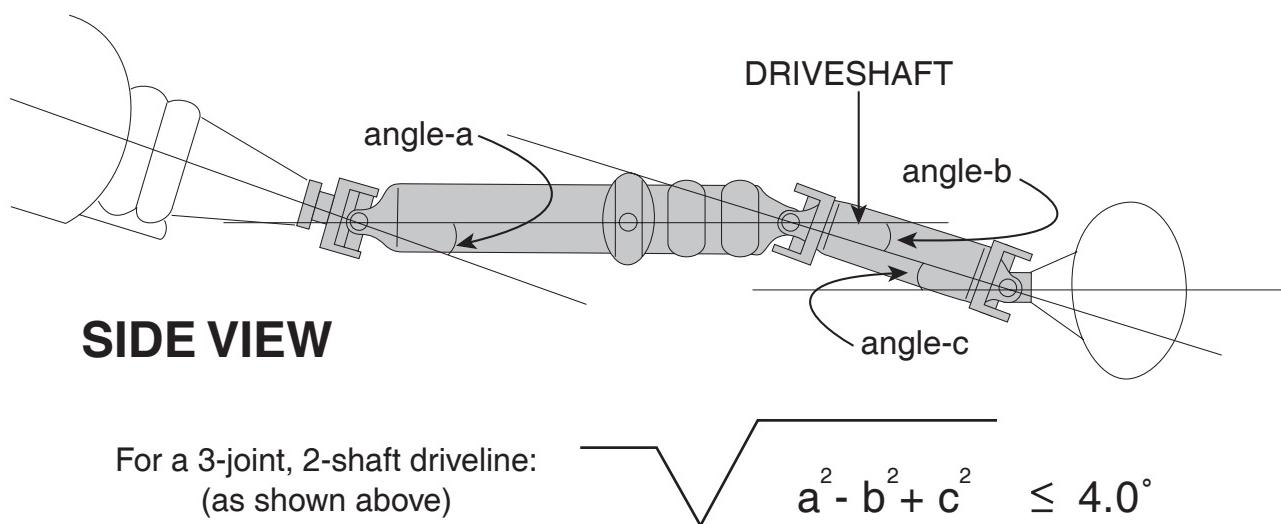


Figure 21

## Checking Angles in Various Conditions

1. Measure and record the driveline angles in each of the following conditions for later comparison:
  - a. The chassis as first received (note that the driveline angles may not conform exactly to this bulletin in this incomplete condition).
  - b. The completed vehicle, unloaded.
- c. The completed vehicle loaded to Gross Vehicle Weight Rating (GVWR) with maximum front Gross Axle Weight Requirement (GAWR).
- d. The completed vehicle loaded to GVWR with maximum rear GAWR.

## **Installation Checklist**

**This Installation Checklist must be completely filled out to ensure proper installation:**

- o Have you checked the mounted height of the air springs and is it correct?
- o Have the axle U-bolts been torqued per the specification?
- o Have the beam pivot bolts been torqued per the specification?
- o Was the suspension at ride height and even from side-to-side when the fasteners were torqued?
- o Have the upper bracket bolts been torqued per the specification?
- o Does the heim joint have the proper amount of thread showing?
- o Have you tightened the heim joint jam nut?
- o Was the axle centered in the chassis within  $\frac{3}{8}$ "?
- o Have all remaining fasteners and fittings been torqued per the specification?
- o Have the pinion angles been checked and are they within specification?
- o Has the panhard bar heim joint been properly greased?
- o Is there adequate clearance around all parts of the panhard bar?
- o Is there a minimum clearance of  $\frac{1}{2}$ " around all parts of the air spring?
- o Has the system been leak checked and found free of leaks?
- o Are all wires and hoses routed correctly and away from heat sources?
- o Has the vehicle been road tested?
- o Has the owner been informed of the maintenance requirements?
- o Has the owner been informed of the operation of the system?
- o Does the owner have the correct instruction manual?

**Technician's Signature** \_\_\_\_\_

# Troubleshooting Guide

Problem	Possible Problem	Check Procedure	Solution
Air System leaks.	<ul style="list-style-type: none"> <li>leaky airbag</li> <li>leaky pneumatic fittings (i.e.: drain valve, Height Control Valve [HCV])</li> <li>cut or pinched air line</li> </ul>	<ul style="list-style-type: none"> <li>Spray air bag with a soapy water solution.</li> <li>Spray fittings with a soapy water solution.</li> <li>Conduct visual inspection.</li> </ul>	<ul style="list-style-type: none"> <li>If leaking, replace air bag.</li> <li>Tighten fittings.</li> <li>Repair or replace as necessary.</li> </ul>
Vehicle is not level side-to-side within 3/8".	<ul style="list-style-type: none"> <li>OEM axle perch is not level side-to-side.</li> </ul>	<ul style="list-style-type: none"> <li>Refer to <i>Inspecting Axle Spring Perch Uniformity</i> in the manual.</li> </ul>	<ul style="list-style-type: none"> <li>Add a 1° shim per the <i>Inspecting Axle Spring Perch Uniformity</i> section.</li> </ul>
Truck sits too low or too high.	<ul style="list-style-type: none"> <li>Air spring mounting height is not correct.</li> </ul>	<ul style="list-style-type: none"> <li>Measure the distance between the upper and lower air bag mounting surfaces.</li> </ul>	<ul style="list-style-type: none"> <li>Change the ride height as necessary to within specifications given in the manual for rolling lobe mounting heights.</li> </ul>
Suspension rides rough.	<ul style="list-style-type: none"> <li>Air bag is mounted too high or too low.</li> <li>OE shocks are too stiff or worn out.</li> </ul>	<ul style="list-style-type: none"> <li>Measure the mounted height.</li> <li>Bounce the rear of the truck. If there are more than two oscillations, the shocks are too worn. If less than two oscillations, shocks are too stiff.</li> </ul>	<ul style="list-style-type: none"> <li>Adjust mounted height as necessary.</li> <li>Install Air Lift Select-A-Ride shocks.</li> </ul>
Rear end "jacks" when vehicle is accelerated.	<ul style="list-style-type: none"> <li>Shocks are not compatible with air suspension.</li> </ul>	<ul style="list-style-type: none"> <li>Truck lurches when accelerating.</li> </ul>	<ul style="list-style-type: none"> <li>Install Air Lift Select-A-Ride shocks.</li> </ul>
<b>Pneumatic Control System</b>			
Problem	Possible Problem	Check Procedure	Solution
Compressor doesn't run.	<ul style="list-style-type: none"> <li>blown fuse</li> <li>loose wire or ground</li> <li>bad pressure switch</li> </ul>	<ul style="list-style-type: none"> <li>Check fuse.</li> <li>Inspect wiring connections.</li> <li>Jumper pressure switch.</li> </ul>	<ul style="list-style-type: none"> <li>Replace fuse.</li> <li>Tighten loose wires or grounds.</li> <li>If compressor runs, replace switch.</li> <li>If compressor does not run, replace compressor.</li> </ul>
Compressor runs all the time.	<ul style="list-style-type: none"> <li>HCV or height sensor is mounted incorrectly.</li> <li>Bad pressure switch</li> </ul>	<ul style="list-style-type: none"> <li>Check manual for mounting location and adjustment instructions.</li> <li>Disconnect switch.</li> </ul>	<ul style="list-style-type: none"> <li>Move HCV or height sensor further towards the pivot bushing.</li> <li>If compressor stops, replace switch.</li> </ul>
System will not kneel.	<ul style="list-style-type: none"> <li>Stuck or clogged solenoid</li> <li>Damaged or improperly connected switch.</li> </ul>	<ul style="list-style-type: none"> <li>Inspect the exhaust port or energize the solenoid.</li> <li>Ensure that switch wiring is correct by referencing the wiring diagram in the Smart-Air manual.</li> </ul>	<ul style="list-style-type: none"> <li>Replace solenoid.</li> <li>Replace switch if found faulty.</li> </ul>
<b>SmartAir Control System</b>			
Problem	Possible Problem	Check Procedure	Solution
Compressor doesn't run.	<ul style="list-style-type: none"> <li>blown fuse</li> <li>loose wire or ground</li> <li>Relay/ECU</li> <li>Magnet to ECU distance</li> <li>Magnet direction/180° off</li> </ul>	<ul style="list-style-type: none"> <li>Check fuse.</li> <li>Inspect wiring connections.</li> <li>Ground terminals #85 if compressor runs.</li> <li>Magnet may be too close or too far from ECU</li> <li>Magnet not facing ECU properly.</li> </ul>	<ul style="list-style-type: none"> <li>Replace fuse.</li> <li>Tighten loose wires or grounds.</li> <li>If compressor runs, replace ECU.</li> <li>If compressor does not run, replace compressor.</li> <li>Refer to SmartAir manual for proper distance between magnet and ECU</li> <li>Make sure dot on magnet points towards the ECU</li> </ul>
Compressor runs all the time.	<ul style="list-style-type: none"> <li>Possible major leak.</li> </ul>	<ul style="list-style-type: none"> <li>Check system for leaks.</li> </ul>	<ul style="list-style-type: none"> <li>Repair as necessary.</li> </ul>
System will not kneel.	<ul style="list-style-type: none"> <li>Stuck or clogged solenoid</li> <li>Damaged or improperly connected switch.</li> </ul>	<ul style="list-style-type: none"> <li>Inspect the exhaust port or energize the solenoid.</li> <li>Ensure that switch wiring is correct by referencing the wiring diagram in the Smart-Air manual.</li> </ul>	<ul style="list-style-type: none"> <li>Replace solenoid.</li> <li>Replace switch if found faulty.</li> </ul>

## Checking for Leaks

1. Spray all connections and the inflation valves with a solution of  $\frac{1}{5}$  liquid dish soap and  $\frac{4}{5}$  water to check for leaks. You should be able to spot leaks easily by looking for bubbles in the soapy water.
2. After the test, deflate the springs to the minimum pressure required to restore the Normal Ride Height, but not less than 10 p.s.i.
3. **IMPORTANT:** Check the air pressure again after 24 hours. A 2 to 4 p.s.i. loss after initial installation is normal. Retest for leaks if the loss is more than 5 lbs.

## Fixing Leaks

1. If there is a problem with the air fitting:
  - a. Check the air line connection by deflating the spring and removing the line by pulling the collar against the fitting and pulling firmly on the air line. Trim 1" off the end of the air line. Be sure the cut is clean and square. Reinsert the air line into the push-to-connect fitting.
  - b. Check the threaded connection by tightening the swivel fitting another  $\frac{1}{2}$  turn. If it still leaks, deflate the air spring, remove the fitting, and re-coat the threads with thread sealant. Reinstall by hand tightening as much as possible, then use a wrench for an additional two turns.
2. If there is a problem with the inflation valve:
  - a. Check the valve core by tightening it with a valve core tool.
  - b. Check the air line connection by removing the air line from the barbed fitting. **CAUTION:** Do not cut it off. This will usually nick the barb and render the fitting useless. Cut air line off a few inches in front of the fitting and use a pair of pliers or vise-grips to pull/twist the air line off the fitting.
3. If the preceding steps have not resolved the problem, call Air Lift Technical Service at 1-800-248-0892 for assistance.

## Maintenance Guidelines

By following the steps below, vehicle owners will obtain the longest life and best results from their air springs.

### 1. Fulfill all Installer Responsibilities:

The installer is solely responsible for checking the installation for safe operation before the vehicle is placed in service. This includes all fastener torques, proper control system operation, and driveline angles.

This instruction manual includes specifications for fastener torques. Tighten fastening hardware as instructed by the specifications.

Retorque the fasteners in intervals as specified below under "Servicing the RoadTamer System."

Check driveline angles as shown in the section titled "Checking Driveline Angles."

### 2. If you develop an air leak in the system, use a soapy water solution to check all air line connections and the inflation valve core before deflating and removing the air spring.

## Servicing the RoadTamer System

1. At 150 miles and every 10,000 miles thereafter, check and retorque (per the fastener torques specified in this manual): the beam front hardware and pivot bolts, the axle U-bolts, and the panhard rod pivot bolts.

### 2. Every 3,000 miles:

Check the air spring install height and adjust the height control valve as necessary.

Check all fittings for air leaks and reseal if necessary.

Grease the panhard rod end fitting.

Check the compressor air filter and replace as necessary.

3. Perform DAILY maintenance by releasing the moisture from the air tank. To do this, pull on the release cable attached to the drain valve. Excess moisture in the system can lead to component failure or freeze up in cold weather.

**Thank you for purchasing Air Lift Products**



Mailing Address:  
AIR LIFT COMPANY  
P.O. Box 80167  
Lansing, MI 48908-0167

Street Address:  
AIR LIFT COMPANY  
2727 Snow Rd.  
Lansing, MI 48917

Local Phone: (517) 322-2144  
Fax: (517) 322-0240  
[www.airliftcompany.com](http://www.airliftcompany.com)

For Technical Assistance call 1-800-248-0892

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Maintaining and Servicing the System